C4I Support Plans (C4ISP)
Overview Brief
to
NDIA Systems Engineering &
Supportability Conference
Interoperability Session

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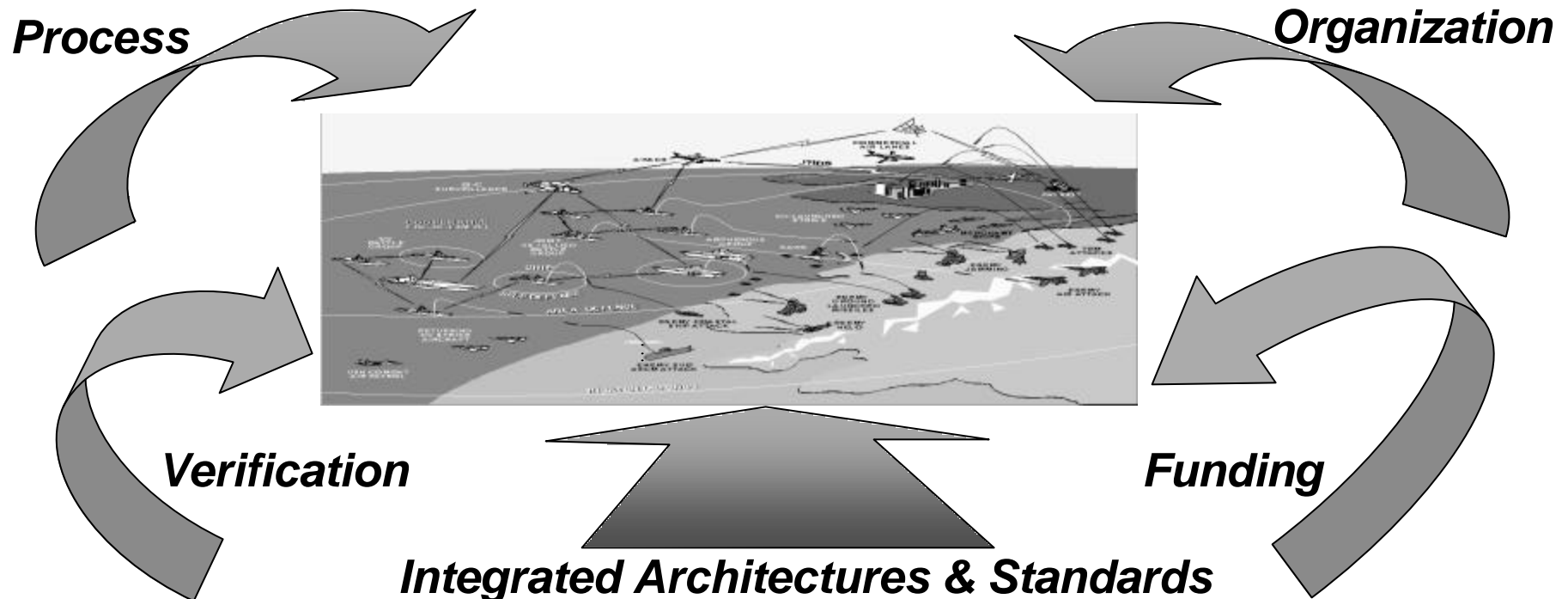
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The Strategies for Achieving Information Interoperability

Process

Organization

Verification

Funding

Integrated Architectures & Standards

"The DoD CIO is responsible for ensuring:

- *The Interoperability of Information Technology and National Security Systems throughout the DoD*

- *That the Information Technology and National Security Systems standards that will apply throughout the DoD are prescribed"*

(Title 10 United States Code, Chapter 131, Section 2223)

Source of Requirement

DOD 5000.2-R: <u>2.2.1 -- Evaluation of Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Support</u> A C4I support plan shall be prepared for all weapons systems/programs that interface with C4I systems. (11 May 99)*

DOD Acquisition Deskbook: <u>C4I Support Plan Guidance and Format</u> contains a template for developing a C4I Support Plan, an appendix for preparing Architecture products, and an Appendix describing the Development, Review and Coordination Process. (Dec 99)

CJCSI 3170.01A <u>Requirements Generation System</u> calls for J2 & DIA to reviewC4I Support Plans and assess ISR requirements and supportability and conduct a certification of intelligence ...requirements supportability. Also, calls for J6 to review and assess the C4 requirements….IERS will be utilized in the C4ISP as one of the tools used to develop operational architectures. (10 Aug 99)

CJCSI 6212.01B <u>Interoperability & Supportability of National Security Systems, and IT Systems</u> establishes policies and procedures for J-6 supportability certification of C4I support plans. The Instruction includes C4ISP Assessment Criteria (8 May 00)
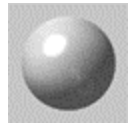
*- DoD 5000.2R & DOD 4630.5/.8 are under revision. Changes include clarifications on C4I Support Plan content and applicability.

Purpose of C4ISP
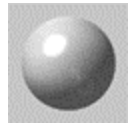
- **Interoperability**

- **Supportability**

A word about CJCSI 6212.01B

- **Two Certifications Affecting C4ISPs:**

  - **Interoperability**

  - **Supportability**

- **Interoperability Key Performance Parameters (KPPS)**
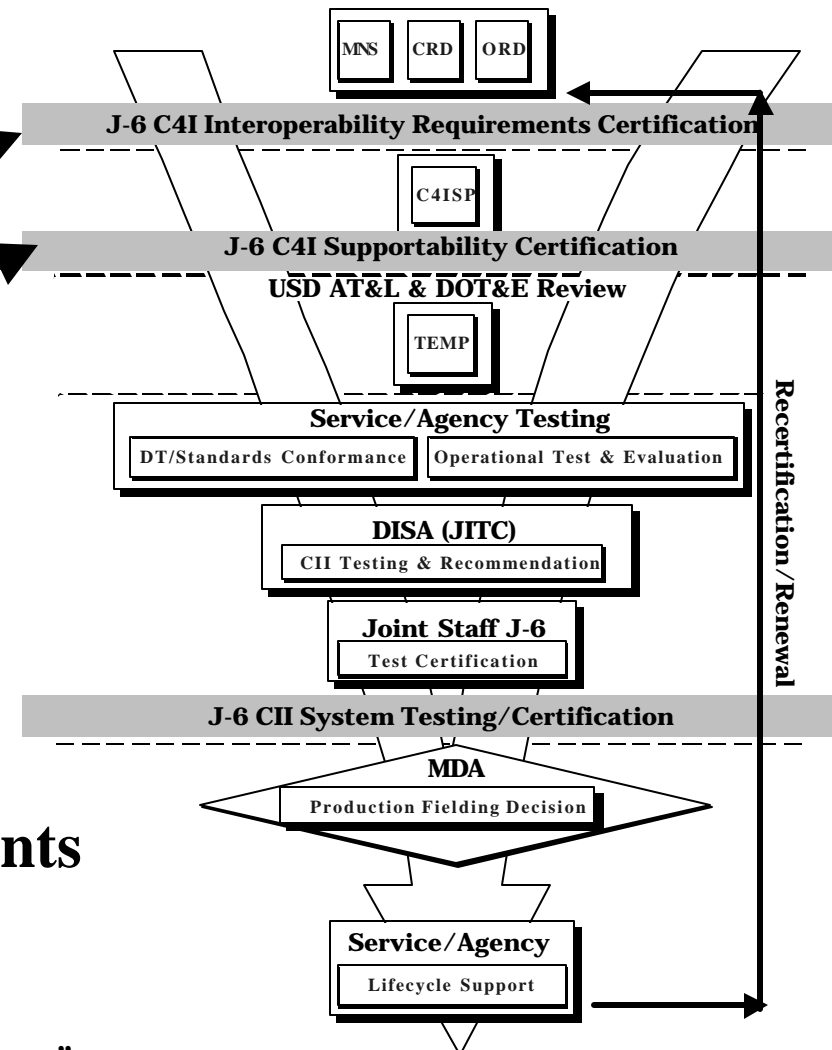
- **Information Exchange Requirements (IERS)**

NOTE: INTELLIGENCE CERTIFICATION WILL BE DEFINED IN:
CJCSI 3312.01, DRAFT "Joint Military Intelligence Requirements Certification Process"

MNS   CRD   ORD

J-6 C4I Interoperability Requirements Certification

C4ISP

J-6 C4I Supportability Certification

USD AT&L & DOT&E Review

TEMP

Service/Agency Testing

| DT/Standards Conformance | Operational Test & Evaluation |

DISA (JITC)
CII Testing & Recommendation

Joint Staff J-6
Test Certification

J-6 CII System Testing/Certification

MDA
Production Fielding Decision

Service/Agency
Lifecycle Support

Recertification/Renewal

Figure 1 C4I Certification Process

5

Value of C4I Support Plans

Program Offices:

- ❐ *Identifies C4I system support needs for weapons, systems/programs*
- ❐ *Identifies dependencies between systems*
- ❐ *Identifies interface requirements early-on in acquisition process*
- ❐ *Mechanism to identify, plan, and manage implementation issues related to C4I infrastructure requirements*
- ❐ *Enables trade analysis*

C4I Support Organizations (interfacing systems, service providers)

- ❐ *Determine if system is supportable*
- ❐ *Ensure systems being developed have adequate and sufficient C4I resources*
- ❐ *Facilitate interoperability , integration & compatibility*

Joint Staff

- ❐ *Assist in certification processes (interoperability & intelligence)*
- ❐ *Assess impact on C4I infrastructure*

OSD

- ❐ *Assess compliance with standards, architectures, investment strategy*
- ❐ *Identify C4I Support deficiencies*
- ❐ *Assess & manage interoperability and integration efforts*

ALL

- ❐ *Raise & resolve issues*

Milestones

- **C4ISPs are "living documents"**
- **Updates prior to each milestone decision**
- **Update when program/system upgrades affect or impact C4I infrastructure**

Milestone I: Approval to Begin a New Acquisition Program

1st Edition

Milestone II: Approval to Enter Engineering & Manufacturing Development

2nd Edition

Milestone III: Production or Fielding/ Deployment Approval

3rd Edition

Upgrade

4th Edition

PM's submit NLT 6 months prior to Milestone Decision

- Advanced Amphibious Assault Vehicle (AAAV), dtd 6/00
- Advanced EHF MILSATCOM dtd 1/99
- Army Tactical Missile System-BAT dtd 10/98
- Battlefield Combat ID System (BCIS)dtd 5/99
- Combat Delivery Aircraft (C-130 AMP) dtd 8/00
- Def Mil Human Resources System(DIMHRS) 2/00
- Defense Joint Accounting System (DJAS) 3/00
- DLA's Business Systems Modernization(BSM) 4/00
- F/A-18 (Strike Fighter), dtd 5/00
- F-22 Advanced Tactical Fighter , dtd 11/99
- Multifunctional Information Distribution System Low-Volume Terminal (MIDS-LVT), dtd 12/99
- Force XXI Battle Command Brigade & Below (FBCB2), dtd 2/00
- Gapfiller 8/00
- Global Hawk 7/00
- Hard & Deeply Buried Target Defeat dtd 1/99
- Joint Air to Surface Standoff Missile (JASSM),dtd 8/98
- Joint Direct Attack Munition (JDAM), dtd 6/00
- Joint Precision Approach and Landing System (JPALS), dtd 3/98
- Joint Stand Off Weapon (JSOW) Unitary 9/00

- Joint Strike Fighter (JSF),dtd 3/99
- JSTARS Common Ground Station (10/00)
- JSTARS Radar Technical Improvement Program(RTIP), dtd 12/99
- Maneuver Control System (MCS), dtd 8/98
- Mobile User Objective System (MUOS), dtd 12/99
- Multiple Launch Rocket System (MLRS) (10/99)
- Navy Theater Wide BMD dtd 2/99
- Patriot System, dtd 5/97
- RAH-66 Comanche Helicopter, 2/00
- Reserve Component Automation System (RCAS) 7/00
- Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T), dtd 10/98
- SLAM-ER 3/00
- STARS Common Ground Station (CGS) 5/00
- T-ADC(X), Auxiliary Dry Cargo Carrier, dtd 2/00
- Theater High Altitude Area Defense (THAAD),dtd 7/99
- Theater Medical Information Program (TMIP) dtd 10/99
- Future Carriers (CVNX), dtd 9/99
- Theater Missile Defense (TMD), 7/96
- UH-60M, dtd 9/00
- V-22 Osprey, dtd 1/00

Plans received from 39 Offices to date

C4I Support Plan Contents

Chapter 1:
INTRODUCTION

- Provides an introduction and acquisition status

Chapter 2:
SYSTEM DESCRIPTION

- Identifies system specific information

Chapter 3:
OPERATIONAL EMPLOYMENT

- Defines employment concept, roles & missions, mission type, employment rate/requirements, operational architecture view, operational info exchange requirements, event trace timelines

Chapter 4:
DERIVED C4I SUPPORT REQUIREMENTS

- Provides analysis and analysis results leading to identification of C4I support requirements

Chapter 5:
POTENTIAL C4I SHORTFALLS & PROPOSED SOLUTIONS

- Identifies shortfalls in available or projected C4I support and interoperability

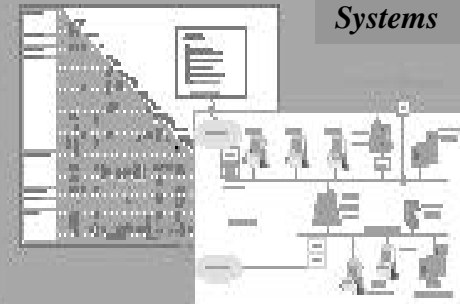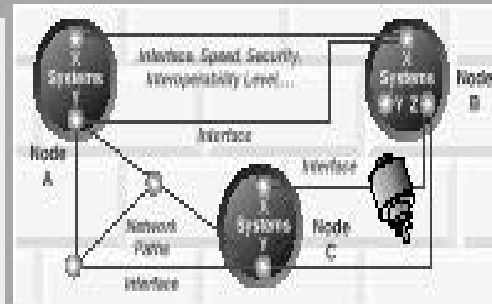- **Note: Supporting appendices provide amplifying data**

One Architecture - 3 Views

The Operational View **describes and interrelates the operational elements, tasks and activities, and information flows required to accomplish mission operations.**
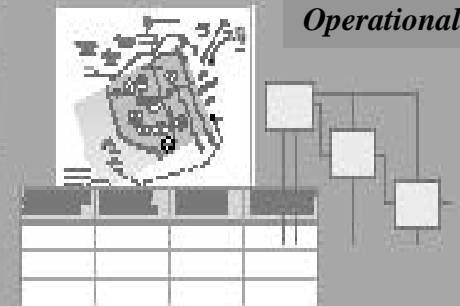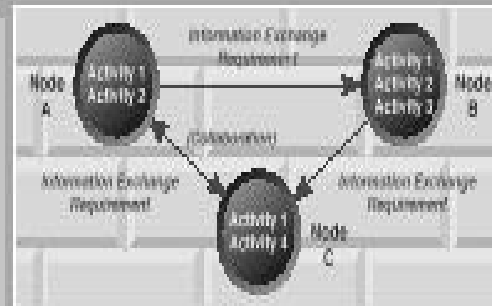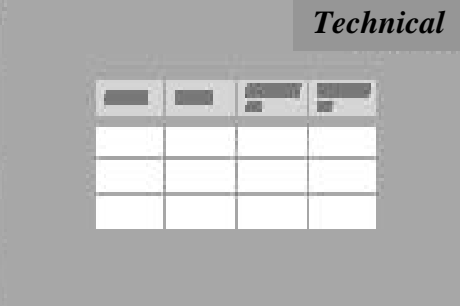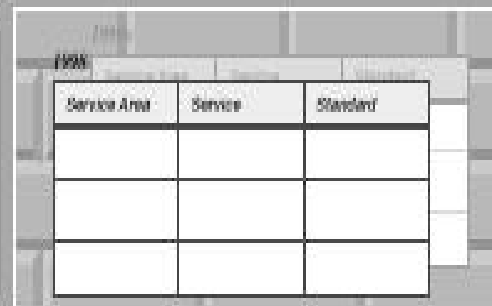
The Systems View **describes and interrelates the existing or postulated technologies, systems, and other resources intended to support the operational requirements.**

The Technical View **describes the profile of rules, standards, and conventions governing systems implementation.**

Operational

Systems

Technical

C4ISR Architecture Framework, Version 2.0
- **System Views (SV)**
- **Operational Views (OV)**
- **Technical Architecture Views (TV)**

C4I System										
	OV-1	OV-2	OV-3	OV-6b	OV-6c	SV-1	SV-6	SV-8	SV-10c	TV-1
MS 0	+					+				
MS I	√	✓	✓	*	✓	√	*	+	*	+
MS II	√	✓	√	*	√	√	*	+	*	√
MS III	√	✓	√	*	√	√	*	+	*	√

Weapon System										
	OV-1	OV-2	OV-3	OV-6b	OV-6c	SV-1	SV-6	SV-8	SV-10c	TV-1
MS 0	+					+				
MS I	√	✓	**+**	*	**+**	√	*	N/A	*	+
MS II	√	✓	√	*	√	√	*	N/A	*	√
MS III	√	✓	√	*	√	√	*	N/A	*	√

Legend: **Ö** = *Mandatory*   * = *Optional*
     + = *Highly Desirable*   N/A = *Not Applicable*
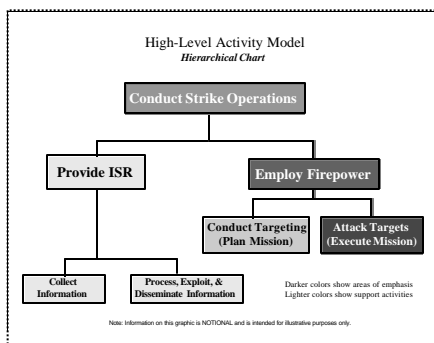**Bold** = a significant deviation between C4I and weapon system requirements
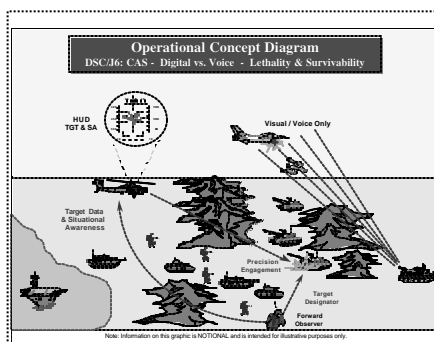
MS I   MSII   MSIII

Op Arch View

Sys Arch View

- Op Concept Diagram
- High-level Activity Model

- Information Exchange Requirements
- Op Node Connectivity Diagram
- System interface Diagrams
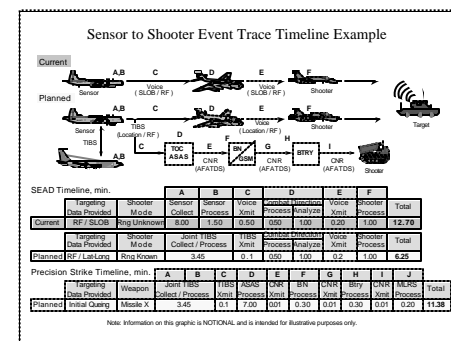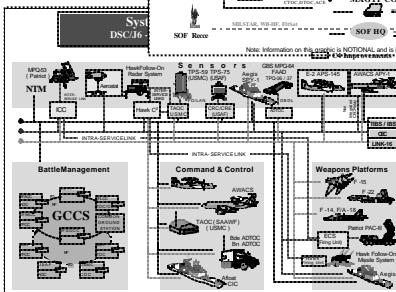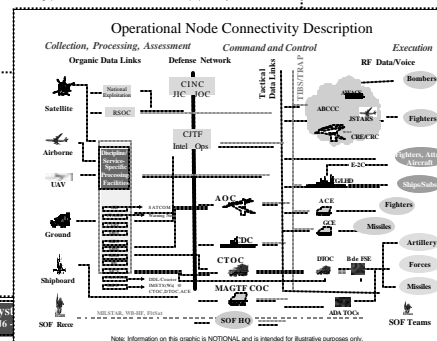
- Event Trace Timeline
- Tech Architecture Profile

Subjects for Shortfalls / Issues

Chapter 5:
POTENTIAL C4I SHORTFALLS &
PROPOSED SOLUTIONS

- Targeting Support
- Geospatial Information
- Mission Planning
- Intelligence Quality / Quantity
  - IMINT
  - SIGINT
  - MASINT
- Computer Resources

- Communication Systems
  - Spectrum
  - Bandwidth / Throughput
  - Format (Message, Database)
- Timeliness
- Security
- Technical Standards

Very important section
Shows results of your analysis!

System Specific Examples

CVN(X) - NIMA's review of the CVN(X) plan revealed a misunderstanding by
the CVN(X) program as to what support NIMA could provide to CVN(X).
Result was direct contact between CVN(X) and NIMA as well as
NIMA participation in the development of other Navy program's C4ISPs.

IBS - Numerous C4ISPs have identified C4I support issues with the
Integrated Broadcast System that were either not considered by IBS or
are inappropriate for IBS to satisfy.

JCC(X) - The C4ISP effort is an integral part of the AOA effort by helping to capture
 the Operational Architecture for either an afloat or distributed JTF concept.

TAMD programs - C4ISP documented need for intelligence collection to
support system design of TAMD systems. This information was used to defend
the need for the collection asset during the summer Intel Program Review.

C4I Support Plan Coordination CONOPs

PM PEO Service

ASD(C3I)/PA&I

Interfacing Program Offices (IPOs) for requirements acceptance

OSD, JS, Agencies Other SMEs for analysis (via working group)

ASD(C3I)

For ACAT I & IAs, Special Interest Systems

MDA

Forward critical concerns

OSD, JS, Agencies Other SMEs for analysis

All others

Component MDA
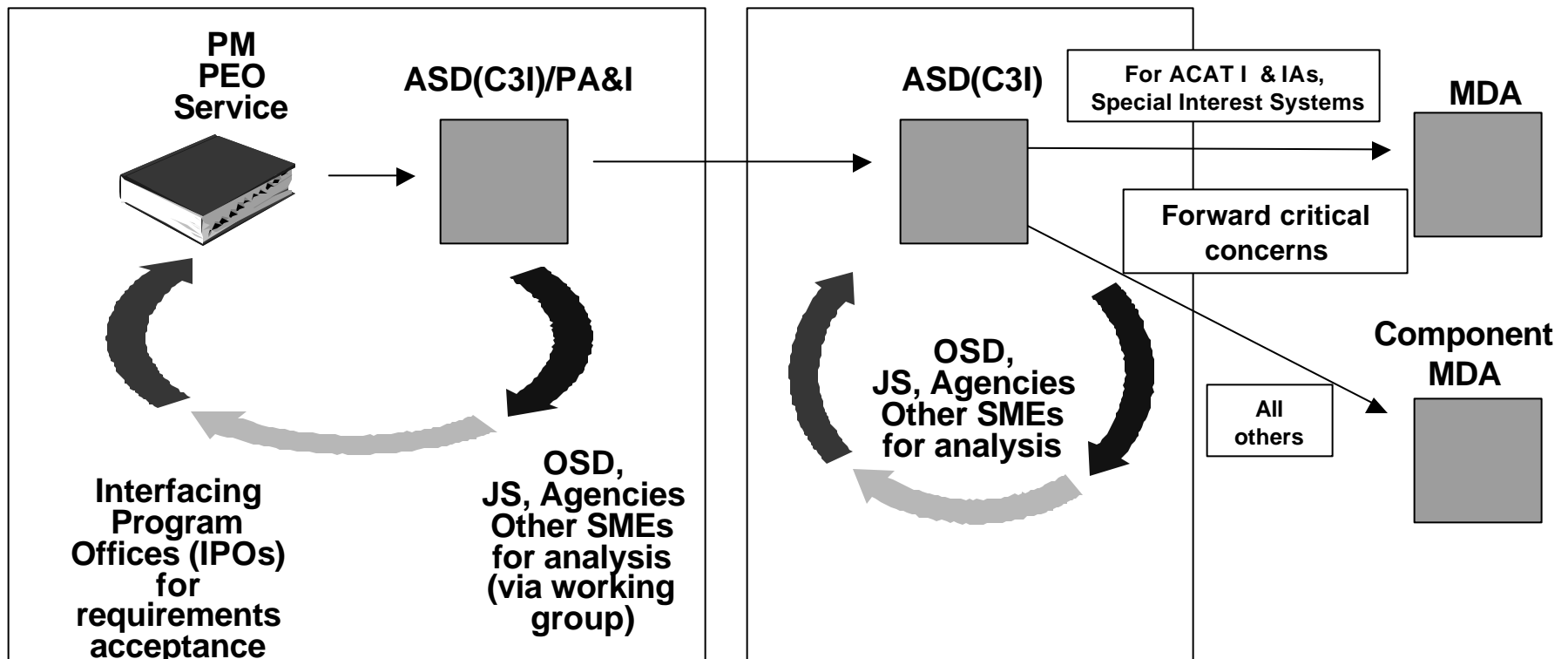
Integrated Product Team For Plan Development

Formal Milestone Coordination
(NLT 60 days prior to MS)

C4ISP Assessment Community

- **OSD**
  - ✓ OASD(C3I)
  - ✓ OUSD(A&T)
  - ✓ DOT&E
- **JS**
  - ✓ J2 (IRCO)
  - ✓ J6
  - ✓ J8
- **CINCs**
  - ✓ JFCOM
  - ✓ SOCOM
- **CIPO's**
  - ✓ CECOM
  - ✓ ESC
  - ✓ SPAWAR

- **Services**
  - ✓ ARMY: DISC4
  - ✓ AF: AFCA lead, SAF/AQ, AFMC, AC2ISR Agency, AFCIC, 497th
  - ✓ NAVY: DASN(C4I), N6, SPAWAR
- **Agencies**
  - ✓ DISA,JITC, JSC
  - ✓ NSA
  - ✓ NIMA
- **Others**
  - ✓ JTAMDO
  - ✓ BMDO
- **PM**
  - ✓ Interfacing Program Offices

DSC

Major Mods

C4ISP
- CONOPS
- System Functions
- Info Needs

Minor Mods

C4ISP is Validated!

No

**#1
Mission Area
Assess vs.
Programmed
Capability**

**#2
Shortfall
?**

**#3
Significant
to Mission
?**

No

Current C4ISR	Programmed C4ISR	2010+ Vision

NOW   7 yrs

Key
Investments

yes

**#4
Determine
Cost-effective
Non-Material
Solutions**

**#5
Determine
Cost-effective
Material
Solutions**

Major Problem for PM,
ASD(C3I) and
Experimentation
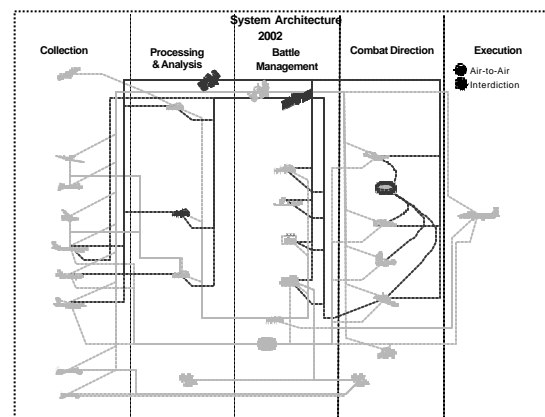Community

**Any
?**
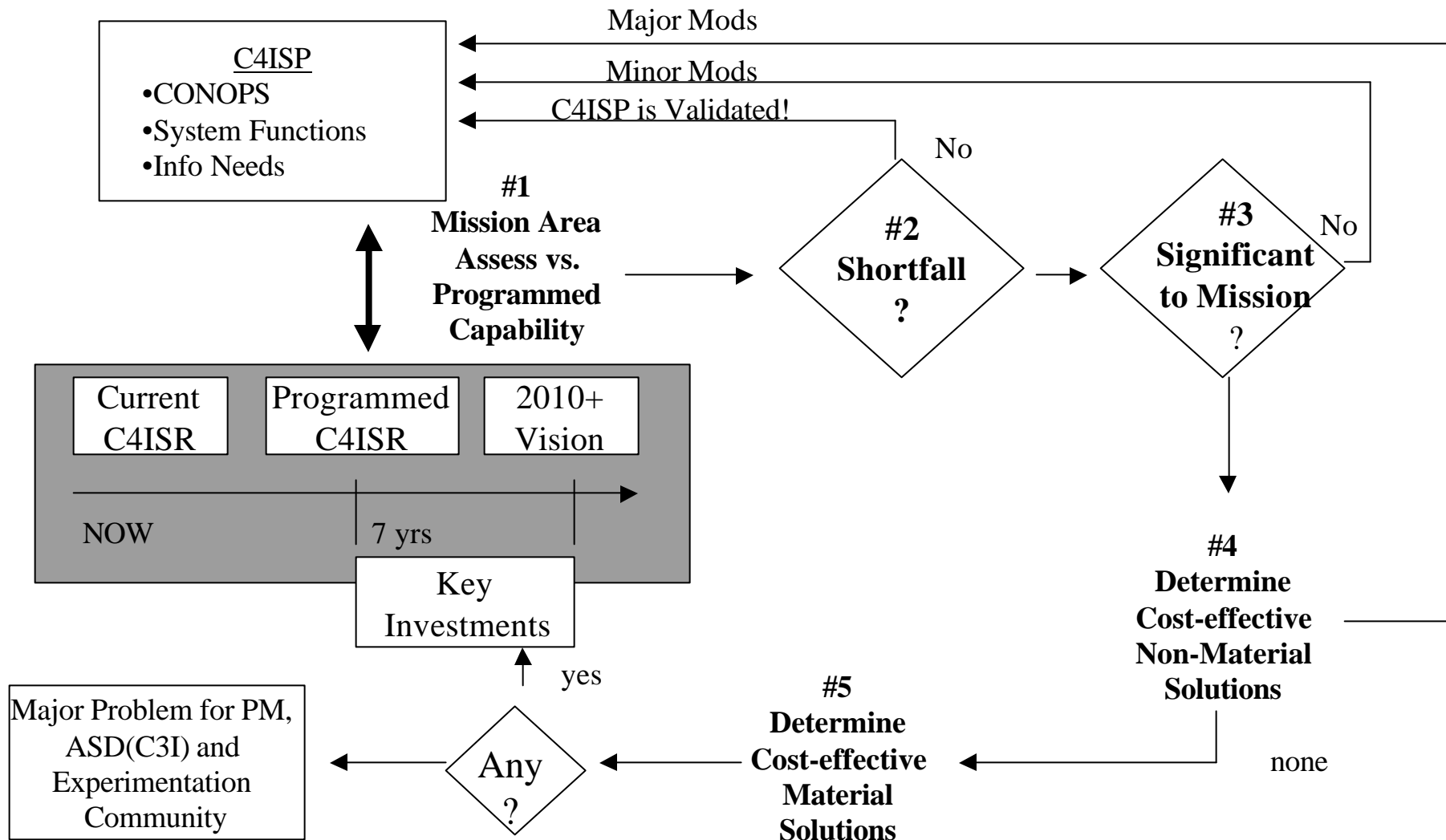
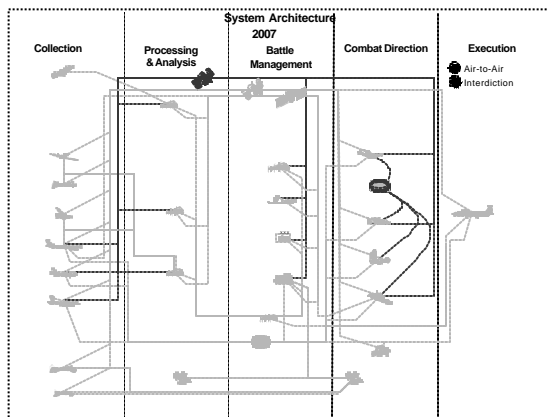# Joint Mission Area Analysis Tool
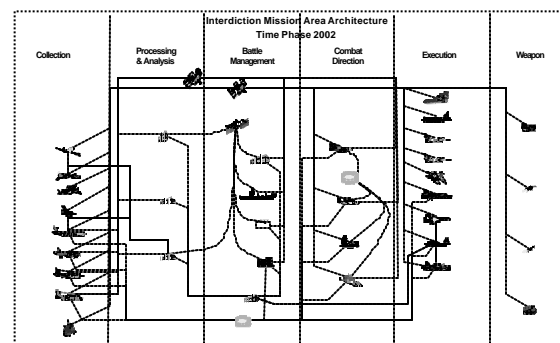
IOC Planned Architecture
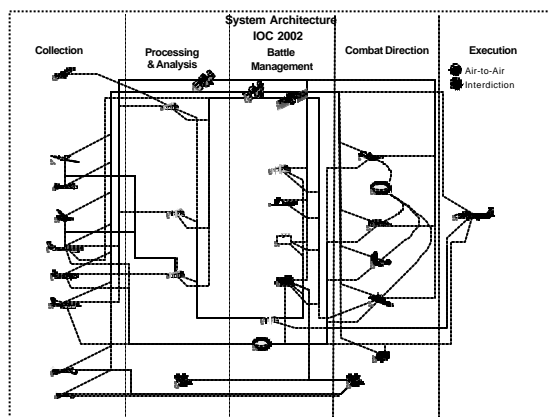
Portion of Planned Architecture available today

Portion of Planned Arch. Avail in 5 yrs

Overlay of Planned Mission Architectures Bottom-up approach

Note: Architecture database connected to Issue Database and Budget Database

POINTS-OF-CONTACT

DSC

OASD(C3I) Information Interoperability POC

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OASD(C3I) C4I Support Plan Team

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Mr. Keith Dean (Model & Sim, C4ISP Process)	**(703) 607- 0596**
Mr. Bob Tarcza (Assessment)	**(703) 607- 0631**

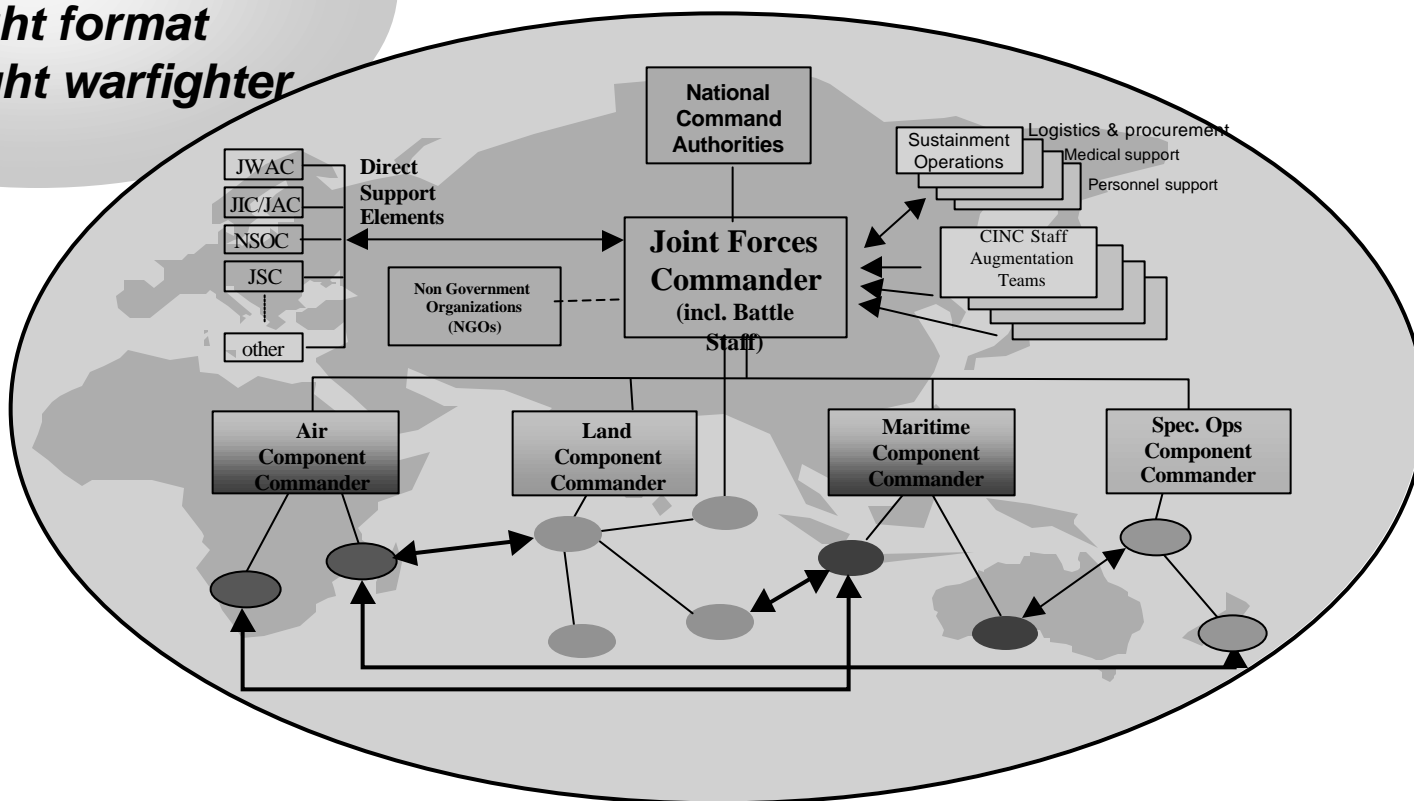| **Web Site**	**NIPRNET**	**SIPRNET**
DSC's C4I Support Plan	http://www.dsc.osd.mil	147.254.104.12
DISA's JCPAT	http://jcpat.ncr.disa.mil	jcpat.ncr.disa.smil.mil
C3I's JMAAT		206.36.143.34/pai/index.htm

?s

BACKUPs

Focus - Joint Forces
Combat and Sustainment Operations

... the right information
... at the right time
... in the right format
... to the right warfighter

National Command Authorities

JWAC
JIC/JAC
NSOC
JSC
other

Direct Support Elements

Non Government Organizations (NGOs)

Joint Forces Commander (incl. Battle Staff)

Sustainment Operations
Logistics & procurement
Medical support
Personnel support

CINC Staff Augmentation Teams

Air Component Commander

Land Component Commander

Maritime Component Commander

Spec. Ops Component Commander

The Role of Integrated Architectures in the Capability lifecycle

"What's IT*"

"Using IT*"

"Getting IT*"

Integrated Architectures
("Functional" or
"Organization")
("AS-IS" &" TO BE's")

OV	SV	TV

Integrated Architectures
("Functional" or
"Organization")
("AS-IS" &" TO BE's")

OV	SV	TV

Integrated Architectures
("Functional" or
"Organization")
("AS-IS" &" TO BE's")

OV	SV	TV

**Tactics
Techniques
Procedures**

**Tactics
Techniques
Procedures**
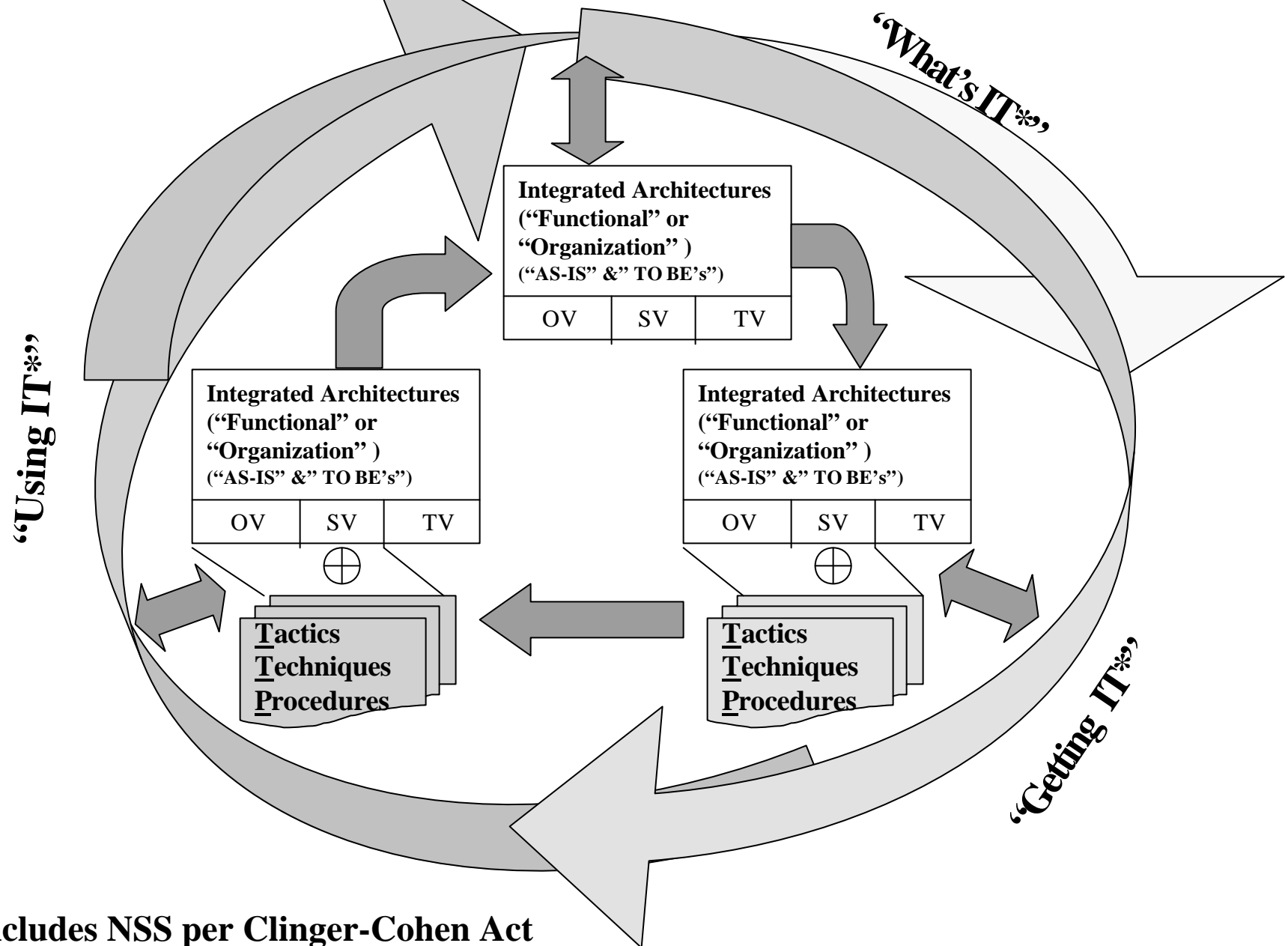
*IT includes NSS per Clinger-Cohen Act